UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,904	11/03/2003	Sean C. Tyler	200310791-1	4382

22879	7590	08/11/2005

HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER
LEVIN, NAUM B

ART UNIT	PAPER NUMBER
2825	

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
	10/699,904	TYLER ET AL.
Office Action Summary	Examiner	Art Unit	
	Naum B. Levin	2825	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 April 2004*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date *11/03/03*.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: on page 7,

line 24 replace "risking" with – rising--.

Appropriate correction is required.

Claim Objections

2. Claim 14 is objected to because following informalities:

line 2, replace "the timing constraint" with – a timing constraint --.

3. Claim 32 is objected to because following informalities:

line 7, replace "a first path" with – the first path --.

4. In claim 32 Applicant must clarify:

"the second path including ... at least a portion of the second path";

"a second downstream path" (what is difference between "a second path" and "a

second downstream path"?).

Appropriate corrections are required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public
use or on sale in this country, more than one year prior to the date of application for patent in the United
States.

Claims 1-39 are rejected under 35 U.S.C. 102(b) as being unpatentable by

Avidan (US Patent 5,740,347).

5. As to claims 1, 13, 21, 27 and 32 Avidan discloses:

(1) A system comprising:

a calculator that provides an indication of slack for at least one node of a circuit

design, the at least one node (e.g. latch) being capable of operating transparently

(open) and non-transparently (close), the indication of slack being determine based on a

minimum slack value for paths that include the at least one node, regardless of path

transparency (gray and black box model) (col.3, ll.12-20; col.4, ll.63-67; col.5, ll.1-16;

col.5, ll.45-67; col.6, ll.1-6; col.6, ll.37-67; col.7, ll.1-15; col.7, ll.28-44; col.10, ll.52-64;

col.11, ll.1-34; col.12, ll.51-67; col.13, ll.1-8; col.20, ll.13-34)

(13) A system to facilitate design of an integrated circuit, comprising:

a path tracer (circuit analyzer with path search algorithm/model) that traces paths

associated with a given node of a circuit design, regardless of path transparency (col.2,

ll.48-60; col.5, ll.23-28; col.22 ll.7-15); and

a calculator that determines timing characteristics associated with the given node

based on timing information for the traced paths, a minimum timing characteristic being

selected from the timing characteristics determined for the traced paths associated with

the given node (col.6, ll.37-67; col.7, ll.1-15; col.11, ll.3-67; col.12, ll.1-40; col.22, ll.16-

27);

(21) A system comprising:

means (circuit analyzer with path search algorithm/model) for tracing at least one

path that includes a given node of a circuit design by analyzing the at least one path

transparently, the given node being capable of operating transparently and non-

transparently (col.2, II.48-60; col.5, II.23-28; col.22 II.7-15);and

means (calculator) for determining potential slack for the given node, the

potential slack corresponding to a minimum slack value determined from slack values

associate with the given node, including a slack value associated with the at least one

path, based on timing information for the at least one path (col.11, II.35-67; col.12, II.1-

40);

(27) A computer-readable medium having computer-executable instructions for

performing a method comprising (Abstract):

computing slack associated with a given node of a circuit design by analyzing

each path associated with the given node transparently (col.4, II.63-67; col.5, II.1-16;

col.5, II.45-67; col.6, II.1-6); and

determining a potential slack value as a minimum of the compute slack

associated with the given node (col.11, II.35-67; col.12, II.1-40);

(32) A method comprising:

determining a timing characteristic for a first path associated with a node of a

given circuit design (col.4, II.63-67; col.5, II.1-16; col.5, II.45-67; col.6, II.1-6);

determining the timing characteristic for at least a second path regardless of path

transparency, the second path including the node and at least a portion of the second

path being capable of operating transparently (gray box model) and non- transparently

(black box model) (col.6, ll.37-67; col.7, ll.1-15); and

   providing an indication of timing performance associated with the node according

to a minimum of the timing characteristic for a first path and the timing characteristic for

at least a second downstream path (col.3, ll.12-20; col.7, ll.28-44; col.11, ll.1-34; col.12,

ll.51-67; col.13, ll.1-8; col.20, ll.13-34).

   6. <u>As to claims 2-12, 14-20, 22-26, 28-31 and 33-39</u> Avidan recites:

   (2), (5), (10), (17), (19), (33), (36) The system/method, wherein at least one path

that includes the at least one node is a non-transparent path based on timing

information for the at least one path (col.13, ll.4-8);

   (3), (6), (15), (29), (35), (37) The system/program/method, wherein the at least

one node further comprises at least one latch (col.22, ll.16-27);

   (4), (16), (25), (30), (38) The system/program/method, wherein the at least one

node further comprises a plurality of latches being clocked by substantially out-of-phase

clock signals (col.4, ll.60-63; col.13, ll.65-67; col.14, ll.1-37);

   (7), (8) The system further comprising a path tracer that traces each path that

includes the at least one node, regardless of path transparency, the calculator

determining slack for the paths (col.2, ll.48-60; col.5, ll.23-28; col.6, ll.37-67; col.7, ll.1-

15; col.11, ll.3-67; col.12, ll.1-40; col.22, ll.7-27);

   (9), (11), (14), (18), (20), (26), (28) The system/program further comprising a

potential slack calculator (col.11, ll.35-67; col.12, ll.1-40);

(12), (39) A computer implemented design tool comprising the system/method of

claim 1/32 (Abstract);

(22)-(24), (31) The system/program/method further comprising means for

determining slack for each of the paths (col.6, ll.37-67; col.7, ll.1-15; col.11, ll.35-67;

col.12, ll.1-40);

(34) The method, wherein the timing characteristic is at least one of slack and

clock skew associated with the node (col.10, ll.52-64).

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Naum B. Levin whose telephone number is 571-272-

1898. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Matthew S. Smith can be reached on 571-272-1907. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

N L

Naum Levin

Naum Levin

AU - 2825